

MOTHER INDIA PUBLIC SCHOOL

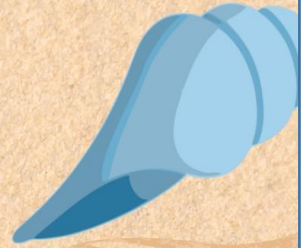
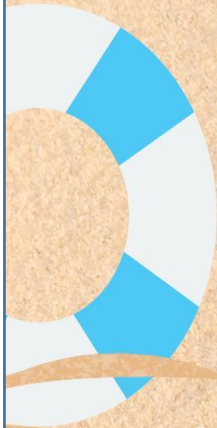
BAZPUR



# SUMMER HOLIDAY HOMEWORK

ENJOY

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## CLASS –XII sci (2025-26)

### **GUIDELINES**

Wishing you a joyful and refreshing summer break!

May this holiday be filled with laughter, discovery, and quality time with loved ones. Take time to relax, explore your interests, and enjoy every moment.

Along with fun, use this time to engage in your holiday homework—designed to spark creativity, deepen understanding, and make learning enjoyable. Complete it with sincerity, originality, and pride.

Stay safe, stay curious, and come back recharged, ready for new beginnings!

### **PHE**

#### **MM-25**

**Total Time Duration 11 Hrs**

#### **1.SAI Khelo India Test**

Time Duration 3 Hrs

Marks Obtained- 10

Explain the procedure and used component in every test item

Test items –

.BMI

.50 mtr speed test

.600 mtr run walk test

.Sit and Reach test

.Abdominal curls up test

.Push-ups for boys and modified push-ups for girls

#### **1.Measurement of cardio-vascular fitness- Harvard Step Test**

**Time Duration- 3 Hrs**

**Marks Obtained- 05**

.Explain the procedure of Harvard step test

.Explain Resting heart rate

.Explain duration of exercise

.Explain how to calculate the pulse after 1 to 1.5 min

.Explain the short term formula and long term formula

#### **General Instructions-**

.Write down the procedure of both above mentioned tests.

.Conduct the tests on at least 5 people.

.Collect the samples and put in the standard scale of tests.

.Mention the results and categorize the physical fitness level of subjects.

.All the work should be done in Physical Education lab manual.

1.Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.

**Time Duration- 5 Hrs**

**Marks Obtained- 10**

**1. Obesity:** Procedure, Benefits & Contraindications for Tadasana and Katichakrasana.

**2. Diabetes:** Procedure, Benefits & Contraindications for Katichakrasana and Pavanmuktasana.

**3. Asthma:** Procedure, Benefits & Contraindications for Vajrasana and Urdhawahastootansana.

**4. Hypertension:** Procedure, Benefits & Contraindications for Uttanpadasana and Katichakrasana.

**5. Back Pain and Arthritis:** Procedure, Benefits & Contraindications of Ushtrasana and Urdhawahastootansana.

### **CHEMISTRY**

#### **Marks distribution**

**Project file -10 marks**

**Data -05 marks**

**Presentation -05 marks**

**Scientific concept -05 marks**

**Format of the Project File (As per CBSE):**

- 1. Title Page (Project Title Name, Class & Section, Roll Number, School Name, Academic Year, Submitted to)**
- 2. Acknowledgement**
- 3. Certificate**
- 4. Index**
- 5. Aim**
- 6. Introduction**
- 7. Theory**
- 8. Bibliography**

#### **Instructions**

**Use A4 size sheets, white or ruled.**

**Handwritten projects are preferred. Use black/blue ink for writing, and coloured pens for headings or diagrams.**

**Add neat, labelled diagrams wherever applicable.**

**Keep the file clean, neat, and well-organized.**

**Project topics names (according to roll number)**

1. Utility of different organic compounds (haloalkane, haloarene, alcohol, phenol, ether, aldehyde, ketone, carboxylic acid, and amines) in daily life
2. Hormones
3. Electrochemical cells and electrolytic cells
4. Batteries
5. Rate law and integrated rate law (zero order, first order, second order reaction)
6. Factors affecting the rate of chemical reactions
7. General properties of d-block elements
8. Lanthanides and actinides contractions
9. Nomenclature of coordination compounds
10. Werner theory, VBT
11. Different types of isomerism in coordination compounds
12. SN1 and SN2 reactions
13. Polyhalogen compounds
14. Naming reactions (Organic chemistry)
15. Uses of chemistry in everyday life
16. Proteins
17. Carbohydrates
18. Enzymes
19. Vitamins
20. Nucleic acids
21. Colligative properties
22. Henry's law and Raoult's law
23. Amines: physical and chemical properties

### **PHYSICS**

**Total marks (25)**

**Total time 10 hours**

**1. Short answer type questions**

**Electric Charges and Fields (20)**

1. What is electrostatics?
2. Define electric charge.
3. What are the types of electric charges?
4. State Coulomb's law.
5. Define electric field.

**Electric Potential**

1. Define electric potential.
2. What is the unit of electric potential?
3. Define potential difference.
4. What is the relation between electric field and potential?

## Capacitors

1. What is a capacitor?
2. Define capacitance.
3. What are the factors affecting capacitance?
4. What is the unit of capacitance?

## Electric Field Lines

1. What are electric field lines?
2. What are the properties of electric field lines?
3. How do electric field lines emerge from a charge?

## More Questions

1. What is the principle of superposition of charges?
2. Define electric dipole moment.
3. What is the electric field due to a point charge?
4. What is the potential energy of a system of charges?

## Make a project file on the topic. (05)

### Instructions

**a. Project file should be of 7 pages at least.**

**b. Name page and copyright information page are not included in the**

1. Sabeeha ( Electric field)
2. Radhika ( Electric potential)
3. Paramjot ( Gauss' theorem)
4. Shubhanshu ( capacitor)
5. Shobhit ( resistors)
6. Shahbuddin ( Electric current)
7. Suhail ( magnetism)
8. Shanib ( alternating current)
9. Harshdeep ( direct current)
10. Pawanpreet ( lenses and their properties)
11. Ayan ( light)
12. Mahenoor ( mirrors and their properties)
13. Noorfiza ( prism and it's properties)
14. Vinay ( interference of light)
15. Sameer ( diffraction of light)
16. Huzefa (magnetic behaviour of materials)
17. Pankaj ( dual nature of light)
18. Tasdeek ( radioactivity)
19. Juned ( semiconductors)
20. Arisha ( superconductors)
21. Mahira ( pn junction diodes)
22. Gurkirat (Electromagnetic induction)
23. Farheen ( kirchhoff's laws)

## ENGLISH

### SECTION A: Project Work- (10 marks)

**Q-1) Please Note: - Assignment work to be done on A4 sheets. Check your roll no. and do the questions as per your roll no.**

1. (Roll No.1, 5, 10, 15, 20, 25) Read The Last Lesson and My mother at Sixty-Six: OLD AGE HOMES are designed for the old age people. Are they is a liability or responsibility for the younger ones in the family? Your views on the emerging old age homes in our country. **(Word limit 800-1000 words)**

2. Roll No. (2,6,11,16,21,26) Lost Spring and there are some schools on wheels. What do you think, we (as developed society) should do? Why should students skip schooling despite their family conditions? Suggest the need of initiatives like School on Wheels. Your views on it. **(Word limit 800-1000 words)**



3. Roll No. (3,7,12,17,22,27) Read the chapter Indigo and find biography of Nelson Mandela. Do you agree Leadership means ownership at the cost of self-sacrifice? Draw comparisons between their lives highlighting their contribution in the field of freedom movement of their country. **(Word limit 800-1000 words)**

4. Roll No.(4,8,13,18,23,28) The Tiger King shows no logic to kills the tigers but just to prove the astrologer wrong, no sympathy for the animals or coexistence. Find some parallel examples from Indian history where an emperor/ King/ Nawab went beyond his duty to get his whims fulfilled. **(Word limit 800-1000 words)**

5. Roll No. (9,14,19,24,29) Read the chapter Rattrap- according to the main character of the story the whole world is a trap and all things that attract us are like bait. Compare this philosophy with Buddhism (life is suffering -desire causes suffering, ending desire ends with suffering.) **(Word limit 800-1000 words)**

### **Project Work - Art Integration**

Prepare and submit the above-mentioned topics integrating them with art. You can choose any two of the following activities and prepare your presentations: -

1. Posters
2. Brochures
3. Scrapbooks
4. Collages
5. Storyboards
6. Caricatures
7. Painting/ Drawing

Be creative and innovative in the presentation of your ideas.

### **SECTION B: ADVANCED WRITING SKILLS**

**Q.2)** Attempt any one of the two, (a),(b) or (c) in about 50 words - **(5 marks)**

Q.2.1) A. You have seen an advertisement in The Hindu for the post of P.G.T.(Psychology) for St. Mary's Convent, Feeder Road, Lucknow. Apply for the job with complete BIO-DATA. You are Sajeev Mathews, resident of 96 Shaheed Bagh, Lucknow.

**OR**

Q.2.1) B. Bal Vidya Public School, Bhilai, urgently requires a post-graduate teacher to teach political science for which they have placed an advertisement in The Indian Express. You are Sujay/Sanjana Sharma from 21, Vasant Marg, Bhilai. Draft a letter including a CV, applying for the advertised post (120-150 words).

**OR**

Q.2.1) C. You are Priti/Pramod Vats, a resident of 317, Rajdhani Enclave, Ramnagar New Delhi. You saw the given advertisement in the newspaper and wished to apply for the same. Write a letter to the Personnel Manager along with your bio-data, expressing your interest in the advertised post.

**HARRISON & SIMPSON Ltd.**

**REQUIRES**

College graduates for marketing a new cosmetic range 'Afresh, needs graduates, comfortable in English and Hindi, good interpersonal skills. Contact: Personal Manager for walk in-10.00 am-5.00 pm  
Mobile no. 9877763240

**Q.3)** Attempt any one of the two, (a) or (b), in about 50 words.

**(5 Marks )**

(a) You are the Secretary of the Civil Medical Doctors Association, Sheesh Nagar. On the occasion of World Health Day, you are arranging a workshop on Drug Free Pain Management and Reversal. Draft a formal letter of invitation to be sent to all the members to attend the workshop. Request them to be punctual. Invent relevant details.

OR

(b) You are Shri E.A.S. Prasad, a well-known local cricketer. You have been invited as a chief guest for an inter- school cricket championship in K.P.S. School, Mehrangarh. Create an appropriate formal letter of acceptance.

**SECTION –C**

**Q.4)** Listen to the video links and design a question paper based on you listening. Follow the question paper format. There should be minimum 10 questions. The questions paper format is given in the box. Maximum marks

Group no. 01- (Roll No.1, 5, 10, 15, 20, 25) <https://www.youtube.com/watch?v=rqoBNKVpFU0>

Group no. 02- Roll No. (2, 6, 11, 16, 21, 26) <https://www.youtube.com/watch?v=XCciAJJMt9Q>

Group no. 03- Roll No. (3, 7, 12, 17, 22, 27) <https://www.youtube.com/watch?v=zrjHY-ID2kU>

Group no. 04- Roll No. (4, 8, 13, 18, 23, 28) <https://www.youtube.com/watch?v=p2LATm1ckk4>

Group no. 05- Roll No. (9, 14, 19, 24, 29) <https://www.youtube.com/watch?v=7oj6gpAbYgw>

**Subject- English (Listening Test-2025)**

**Class-XII**

**Time – 10 Minutes**

**M.M-10**

Instructions: - Listen to the video and answer the following questions.

**Types of questions – MCQ-2, Complete the statement- 2, Vocabulary based- 2, short answers-4**

**Questions should be designed from the middle and concluding part of the video.**

## MATHEMATICS

**General Instructions: All questions are compulsory ( each carry 1 marks)**

**Note: Do all questions in your Maths notebook.**

**Time Duration per day**

**Day-1- 30 minutes , No. Of questions -3**

**Day-2- 30 Minutes, No. Of questions -3**

**Day-3- 30 minutes , No. Of questions -3**

**Day-4- 30 Minutes r, No. Of questions -3**

**Day-5- 30 Minutes No. Of questions -3**

**Day-6- 30 Minutes, No. Of questions -3**

**Day-7- 30 Minutes, No. Of questions -3**

**Day-8- one hour, No. Of questions -4**

**Total time: 4 hours**

1- If  $A = \mathbb{R} - \{3\}$  and  $B = \mathbb{R} - \{1\}$ , consider the function  $f: A \rightarrow B$  defined by  $f(x) = \frac{x-2}{x-3}$ , for all  $x \in A$ . Then show that  $f$  is bijective.

2- Let  $R$  be a relation defined on a set  $N$  of natural numbers such that  $R = \{(x, y) : xy = \text{is a square of a natural number}; x, y \in N\}$ . Determine if the relation  $R$  is an equivalence relation.

3- If  $Z$  is the set of all integers and  $R$  is the relation on  $Z$  defined as  $R = \{(a, b) : a, b \in Z \text{ and } a - b \text{ is divisible by } 5\}$ . Prove that  $R$  is an equivalence relation.

4- A student wants to pair up natural numbers in such a way that they satisfy the equation  $2x + y = 41$ ;  $x, y \in \mathbb{N}$ . Find the domain and range of the relation. Check if the relation thus formed is reflexive, symmetric and transitive. Hence, state whether it is an equivalence relation or not.

5 - Find the domain of  $f(x) = \sin^{-1}(-x^2)$ .

6 - Write the value of  $\cot^2(\operatorname{cosec}^{-1}3) + \sin^2[\cos^{-1}(1/3)]$ .

7 - Find the Domain of  $f(x) = \cos^{-1}x + \sin x$ .

8 - Write the principal value of  $\cos^{-1}(\cos 2\pi/3) + \sin^{-1}(\sin 2\pi/3)$ .

9 - If  $A$  and  $B$  are two square matrices each of order 3 with  $|A| = 3$  and  $|B| = 5$ , then  $|2AB|$  is .

10 - Write the number of all possible matrices of order  $2 \times 2$ , with each entry 1, 2, 3.

11 - Construct a  $3 \times 3$  matrix  $A = [a_{ij}]$ , whose elements  $a_{ij}$  are given by  $a_{ij} = \frac{|i-j|}{2}$ .

12 – If a matrix  $A = \begin{bmatrix} 1 & -1 \\ -1 & 1 \end{bmatrix}$  and  $A^2 = Ka$ , then write the value of k.

13 – If  $\begin{bmatrix} 2 & 7 \\ 5 & 3 \end{bmatrix} \begin{bmatrix} 1 & -3 \\ -2 & 4 \end{bmatrix} = \begin{bmatrix} -4 & 6 \\ -9 & x \end{bmatrix}$ , write the value of x.

14 – If  $A = \begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}$ , then find the value of  $A^2 - 3A + 2I$ .

15 – Express the matrix  $A = \begin{bmatrix} 2 & 4 & -6 \\ 7 & 3 & 5 \\ 1 & -2 & 4 \end{bmatrix}$  as the sum of a symmetric and skew symmetric matrix.

16 – If  $A = \begin{bmatrix} 1 & 2 \\ 3 & -1 \end{bmatrix}$  and  $B = \begin{bmatrix} 1 & 3 \\ -1 & 1 \end{bmatrix}$ , write the value of  $|AB|$ .

17 – If  $\begin{vmatrix} 2x & 5 \\ 8 & x \end{vmatrix} = \begin{vmatrix} 6 & -2 \\ 7 & 3 \end{vmatrix}$ , then write the value of x.

18 – Let  $2x + 5y - 1 = 0$  and  $3x + 2y - 7 = 0$  represent the equations of two lines on which the ants are moving on the ground. Using matrix method, find a point common to the paths of the ants.

19 – Find the equation of the line joining A (1,3) and B(0,0) using determinants and find the value of k if D (k,0) is a point such that area of  $\triangle ABD$  is 3 square units.

20 – Find  $|\text{adj } A|$  if  $A = \begin{bmatrix} 5 & 2 \\ 7 & 3 \end{bmatrix}$ .

21 – If A is a square matrix of order 3 such that  $|\text{adj } A| = 64$ , then find  $|A|$ .

22 – Find the adjoint of the matrix  $A = \begin{bmatrix} -1 & -2 & -2 \\ 2 & 1 & -2 \\ 2 & -2 & 1 \end{bmatrix}$ , and hence show that  $A (\text{adj}A) = |A| I_3$ .

23 – Use the product of matrices  $\begin{bmatrix} 1 & 2 & -3 \\ 3 & 2 & -2 \\ 2 & -1 & 1 \end{bmatrix} \begin{bmatrix} 0 & 1 & 2 \\ -7 & 7 & -7 \\ -7 & 5 & -4 \end{bmatrix}$  to solve the following system of equations  $x + 2y - 3z = 6$ ,  $3x + 2y - 2z = 3$ ,  $2x - y + z = 2$

24 – If  $A = \begin{bmatrix} 1 & 2 & 1 \\ -1 & 1 & 1 \\ 1 & -3 & 1 \end{bmatrix}$ , then find  $A^{-1}$  and hence solve the system of equations ;  $x + 2y + z = 4$ ,  $-x + y + z = 0$ ,  $x - 3y + z = 4$

25- Case Study questions of 4 marks each. 36. Three students, Neha, Rani and Sam go to a market to purchase stationary items. Neha buys 4 pens, 3 notepads and 2 erasers and pays `60. Rani buys 2 pens, 4 notepads and 6 erasers for `90. Sam pays `70 for 6 pens, 2 notepads and 3 erasers. Based upon the above information, answer the following questions.

1-Form the equations required to solve the problem of finding the price of each item, and express it in the matrix form  $AX = B$ .

(ii) Find A and confirm if it is possible to find  $A^{-1}$ .

(iii) (a) Find  $A^{-1}$ , if possible, and write the formula to find X. OR

(iii) (b) Find  $A^2 - 8I$ , where I is an identity matrix.



## HOMESCIENCE

### 1.PRACTICAL

(15)

#### Aim

Preparation and use of one teaching aid to communicate socially relevant messages for children/ adolescent /adults in the community.

**Suggestions for Students: It can be chart, poster, PPT, leaflet, Pamphlet. Puzzles can also be made out of drawings that are taken from the newspaper or magazines. Cut pictures can also be used to make a scrap book with cut pictures and drawings. Some ideas for scrap books are a collection called my family, or my school, or my neighbourhood, village. Pictures of fruits, animals, household objects, natural things, can be used for several activities like these.**

#### Assessment criteria

**Content 5**

**Presentation 5**

**Authentication 5**

### 1. Practical

(10)

AIM: Preparation of one article of each using applied textile design technique (Tie and Dye). For example:- Handkerchief, Dupatta, Table cloth, Saree, Curtains(set of 2).

Task: Learning the different techniques of tie and dye

Theory: The oldest form of designing with colour is resist dyeing. The resist material could be thread, pieces of fabric, or substances such as clay and wax that offer physical resistance. The most common method of resist is tying with thread. Tie and dye is the name of a technique in which the areas to be in pattern are resisted by means of tightly wound thread. When dipped into dye, the resisted areas retain the original colour of the ground. You may recall from Class XI, Bandhani, chunari, laheria are some of the names of materials in which the pattern is created by tie-dyeing the fabric after it is woven. A typical tie and dye design is bandhej where the patterns comprise of innumerable dots; another is the laheria type where the pattern is in the form of diagonal stripes. Gujarat and Rajasthan are the homes of this type of fabrics.

#### Purpose

- a) To learn the concept of tie and dye
- b) To learn the process of tie and dye through various techniques

#### Conducting the Practical

As a modern day craft, numerous techniques of tying are employed to get variegated effects. Resist can be offered by using threads of different thicknesses, or by the material itself through knotting, crumpling or folding and then tying over it. Some of the techniques are described below:

**Knotting:** It is one of the easiest and quickest ways of producing the design. Knots can be tied in several ways depending on the size, shape and grain of the fabric. The best results are achieved on fine fabric. It creates shaded circular patterns.



### **Knotting method**

### **Binding method**

**Binding:** Certain parts of fabric are bound very tightly with thread before dying. Binding can be done in the form of a dot, a band, line, criss-cross or spiral. Designs are like stripes – straight or diagonal (lehria), circles or spots (bandhej).

### **Assessment criteria**

### **Article making. 5**

### **Article design 3**

### **Article presentation 2**

**NOTE:** For queries can contact on 9997119599

## HINDI

- नोट :-** 1. कार्य को रंगीन शीट अथवा स्क्रेपबुक अथवा फाईल पेज में संकलित करें।  
2. कार्य करते समय चित्र, रंग, रचनात्मकता तथा मौलिकता को प्राथमिकता दें।

प्रश्न 1) मेरा प्रिय लेखक/कवि (पोस्टर निर्माण कार्य)

- निम्न में से किसी एक साहित्यकार का चयन करें – हरिवंश राय बच्चन, महादेवी वर्मा, मन्नू भण्डारी, सूर्यकांत त्रिपाठी “निराला”, धर्मवीर भारती
- साहित्यकार का चित्र, संक्षिप्त जीवन परिचय, प्रमुख रचनाओं का उल्लेख करें।
- पोस्टर(चित्र) को रंगीन, कलात्मक व आकर्षक बनाएँ।

प्रश्न 2) कविता वाचन और अभिव्यक्ति (वीडियो गतिविधि)

- पाठ्यपुस्तक से अपनी पसंद की कोई एक कविता चुनें।
- उसका भाव समझें तथा 1-2 मिनट की वीडियो बनाएँ।
- उच्चारण, गति और भाव-भंगिमा पर ध्यान दें।

प्रश्न 3) रचनात्मक लेखन (कोई एक विकल्प चुनिए)

- विकल्प 1- एक प्रेरणादायी कहानी लिखिए (चित्र सहित)
- विकल्प 2- वाद-विवाद-“क्या भारत की शिक्षा नीति में बदलाव की आवश्यकता है”

प्रश्न 4) प्रश्नलेखन कौशल

- एक ए-4 शीट पर “कैसे लिखें प्रभावशाली उत्तर?” पर पोस्टर बनाएँ
- उत्तर लिखने की संरचना, भाषा शैली, प्रमुख बिंदु आदि सम्मिलित करें।

प्रश्न 5) व्याकरण पर आधारित:-

- जनसंचार माध्यमों का सचित्र वर्णन करें।
- चित्र सहित प्राचीन, मध्यकालीन व आधुनिक जनसंचार माध्यमों को दर्शाएँ।
- जनसंचार माध्यमों की महत्वता को समझाएँ।

## BIOLOGY

### Instructions:

1. Complete all tasks as per the given instructions.
2. Present your work neatly in a well-organized file.
3. Include diagrams and charts wherever necessary.
4. Submit your assignment on the first day after the vacation.

### Part A: Theoretical Assignments

#### 1. Chapter Summaries:

Frame complete mind map of following chapters (3 Marks)

Sexual Reproduction in Flowering Plants

- a. Human Reproduction
- b. Reproductive Health
- c. Highlight key concepts and diagrams.

#### 1. Short Notes: (3 Marks)

Write short notes on the following topics (100–150 words each):

- a. Pollination and its types
- b. Menstrual Cycle in Human female
- c. Contraceptive Methods

**Part B: Practical Work and Projects (5 Marks)**

Prepare a Project File on provided Topic.

Arisha – Prefertilization Events in Flowering Plants

Huzaifa – Male and Female Reproductive System.

Mahe Noor – Contraceptive Methods.

Gurkirat Singh – Sexually Transmitted Diseases and Assisted Reproductive Technologies.

Noorfiza – Sex Determination in Different Animals.

Harshdeep Kaur – Genetic Disorders.

Pawanpreet Kaur – DNA Replication.

Farheen – DNA Fingerprinting.

Shahbuddin – Common Diseases in Human Being.

Sabeeha – Human Immune System.

Mohd. Shanib – Vaccination and Immunization.

Ayan Ali – AIDS.

Mohd. Sameer Khan – Cancer

Tasdeek Ahmad – Drugs and its Consequences on individual and Family.

Mohd Suhail – Importance of microbes in human welfare.

Junaid – Recombinant DNA Technology.

Pankaj – Importance of Biotechnology in the field of Medicine.

**Part C: Creative Tasks**

1. Poster Making (4 Marks)

Prepare a poster on Different Contraceptive Methods and Devices.

**Part D: Revision and Practice (10 Marks)**

☐ **Multiple Choice Questions (MCQs)**

1. Which layer of the microsporangium nourishes the developing pollen grains?

- a. Epidermis
- b. Endothecium
- c. Middle layers
- d. Tapetum

2. In human males, which cells secrete testosterone?

- a. Sertoli cells
- b. Leydig cells
- c. Spermatogonia
- d. Spermatocytes

3. Which of the following is a barrier method of contraception?

- a. Oral pills
- b. Copper-T
- c. Condom
- d. Vasectomy

3. Double fertilization is a characteristic feature of:

- a. Gymnosperms
- b. Angiosperms
- c. Bryophytes
- d. Pteridophytes

4. The hormone responsible for milk ejection during lactation is:

- a. Prolactin
- b. Oxytocin
- c. Estragon
- d. Progesterone

**Q Assertion-Reason Questions**

**Directions: For each question, select the correct option:**

- a. Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.
- b. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
- c. Assertion is true, but Reason is false.
- d. Assertion is false, but Reason is true.

1. Assertion: In angiosperms, endosperm is formed before the zygote.  
Reason: Endosperm provides nourishment to the developing embryo.
2. Assertion: Vasectomy is a permanent method of contraception in males.  
Reason: It involves the removal of the testes
3. Assertion: The menstrual cycle is absent during pregnancy.  
Reason: High levels of progesterone and estrogen suppress the release of FSH and LH.
4. Assertion: Pollen grains of many species can be stored for years in liquid nitrogen.  
Reason: Liquid nitrogen maintains a temperature of  $-196^{\circ}\text{C}$ , preserving viability.
5. Assertion: Copper-T prevents implantation.  
Reason: It releases progesterone, which inhibits ovulation.

#### Short Answer Type Questions (2–3 Marks)

1. Differentiate between autogamy and geitonogamy.
2. Describe the role of corpus luteum in the menstrual cycle.
3. What is amniocentesis? Why is it banned in India?
4. Explain the significance of double fertilization in angiosperms.
5. List any two sexually transmitted diseases and mention their causative agents.

#### Long Answer Type Questions (5 Marks)

1. Describe the process of microsporogenesis and development of male gametophyte in angiosperms.
2. Explain the hormonal regulation of the menstrual cycle in human females.
3. Discuss the structure and function of the human male reproductive system with a labeled diagram.
4. What are Assisted Reproductive Technologies (ART)? Describe any two ART methods.
5. Explain the various natural and artificial methods of contraception, highlighting their advantages and disadvantages.

#### Submission Guidelines

**Ensure the assignment is well-organized and error-free.**

**Label diagrams clearly and use appropriate scientific terminology.**

### INFORMATION TECHNOLOGY

- **Do the following PYQ's and additional Questions in your notebook. Most of the given questions require one word answer and this whole homework requires 30 minutes every day.**
  1. An individual's motivations, inspired by others or events is known as \_\_\_\_\_.
  2. What is stress?
  3. A \_\_\_\_\_ is a rectangle shaped box, where row and column meet in a spreadsheet.
  4. \_\_\_\_\_ Command displays all the tables created in a current database.
  5. \_\_\_\_\_ Symbol replaces a single character while matching a pattern with LIKE keyword.
  6. An attribute value may not be permitted to be NULL value with \_\_\_\_\_ constraint.

7. Ranjana has written the following query but it is giving an error. Rectify the error and rewrite the query:  

```
SELECT * FROM PRODUCT
SORT BY PRICE;
```
8. "Database management system could not find any usage in hospital domain." Is the above statement true or false?
9. The \_\_\_\_\_ command is used to view the structure and description of table.
10. Define Referential Integrity.
11. Database can be removed by using \_\_\_\_\_ command.
12. Create table is a \_\_\_\_\_ command.
13. RDBMS package are widely used as \_\_\_\_\_ (frontend/ backend)
14. Write a query to modify the value of field 'dept' from 'marketing' to 'sales' in a table Department.
15. Mention any 2 steps to overcome personality disorder.
16. Mention any 2 significance of Database Management System.
17. The number of attributes in a relation is called the \_\_\_\_\_ of relation.
18. To avoid repetition in the result of SELECT query \_\_\_\_\_ clause is used.
19. Discuss any 3 main purposes of using Database application in education domain.
20. State role of DBA (Database Administrator)
21. Sana has given the following query but she is unable to execute it successfully. Write the correct query:  

```
SELECT NAME, MARKS
FROM STUDENT TABLE
WHERE NAME = "P%"
```
22. What is the purpose of HAVING clause? How is it different from WHERE clause in SQL? Give example to support your answer.
23. Write the use of database management in railways.
24. How are database management concept helpful in Telecommunications?
25. An airline company is making a database of its flights and staff. The staff table includes: Emp\_id, Emp\_Name, Emp\_dob, E\_sal. Give the details of flight table with its schema.
26. A group of words that communicate a complete meaning.
27. In the acronym 'SMART' to set goals, letter 'S' implies.
28. \_\_\_\_\_ is a state of feeling upset, annoyed and hopeless.
29. Which command is used to delete the table from database?
30. The \_\_\_\_\_ aggregate function in SQL is used to find the average of all the values for an attribute in table.
31. In SQL, \_\_\_\_\_ constraint is used to restrict the values within a range in a relation.
32. Sohan has created a table, STUDENT in RDBMS. He now wants to add another field, PERCENTAGE, which is of type integer, to complete the table. Write the command that will help Sohan to complete the task.
33. The number of rows in a relation is called \_\_\_\_\_ of a relation.
34. Name any two domains where database applications may be used.
35. To show the structure of created table in a database, \_\_\_\_\_ command is used.
36. Write the SQL command to display all the details of teachers from the table 'Teacher' whose salary is greater than 15000.
37. While creating a table in MYSQL database. Sudha wants to set the value for the age as 0. This value will be inserted if no value of age is given by the user. Suggest a constraint that Sudha can use to complete the task.
38. What are the different stages of active listening? Write the names of the four stages.



39. Differentiate between CHAR(n) and VARCHAR(n) data type of MYSQL. Give example to support the answer.

40. Vikrant has given the following query but it had errors. Rectify the error and underline the correction:

```
SELECT name, age
FROM teacher
WHERE name = “_a%”;
```

41. Explain the GROUP BY clause in SQL with example.

42. Consider the question:

- a) Write an SQL command to create a table TravelAgency whose description is given below:

AgentCode	CHAR(4)	PRIMARY KEY
AgentName	VARCHAR(20)	NIT NULL
Location	VARCHAR(25)	
Package	VARCHAR(30)	
Charges	Decimal	

- b) Write the command to add a new row to table TravelAgency with following values (“A005”, “Raman”, “Grover Travel”, “Domestic”, 8000)

- c) Write a query to remove the column package from the table TravelAgency.

- Using Internet do 15 Queries related to database in your notebook.

- Project work/file:

**Guidelines:**

**The file should consist of Introduction page, Acknowledgement page, Index, and 6 to 8 pages of proper explanation.**

**1. Arts**

- a) Roll No – 1 to 6 Database Concept
- b) Roll No – 7 to 12 Operating Web
- c) Roll No – 13 to 18 Fundamental of Java.

**2. Commerce**

- a) Roll No – 1 to 7 Database Concept
- b) Roll No – 8 to 14 Operating Web
- c) Roll No – 15 to 20 Fundamental of Java

**3. Science**

- a) Roll No – 1 to 8 Database Concept
- b) Roll No – 9 to 16 Operating Web
- c) Roll No – 17 to 24 Fundamental of Java

- Marks Distribution:-

Neatness	Proficiency	On Time	Accurate Data	Personal effect
5	5	5	5	5